

ADT.26 – An improved Strain in *Mattaikuruvai* variety

by

V. SRINIVASAN,¹ T. G. SOUNDARARAJAN,² T. S. THEETHARAPPAN²
and S. MANAMOHAN LAL⁴

Synopsis: Puroline selection work on a variety *Mattaikuruvai* popularly grown in coastal taluks of Thanjavur and in the neighbouring district over an area of about 40,000 acres was taken up. From the results of trials conducted during the course of eight years both in the Research Station and in the ryots' holdings, it was possible to isolate a high yielding selection which has been released as strain ADT.26.

Mattaikuruvai is a coarse red riced variety of paddy grown in the coastal areas of Mayuram, Sirkali, Nagapattinam, Tiruthuraiipoondi and Chidambaram taluks of Thanjavur and South Arcot districts, over an area of about 40,000 acres. This is capable of tolerating soil salinity to a certain extent. This variety, with a duration of 105 days, is sown in June–July, after the receipt of water in the Cauvery Irrigation System and transplanted in July–August and harvested in September–October, the yield ranging from 1400 to 1500 kg. per acre.

Representative samples of this variety from ryots' crops were collected and brought to the station and grown and studied in 1948–49 and promising single plants selected. The work was in progress from 1949–50 with 96 selections. Even when these were under study, fresh selections from ryots' bulk were also made during 1950–51, bringing the total number of selections to 289. All of them were grown and studied in 1951–52 and based on their performance, 49 selections were carried forward for preliminary yield trials.

These 49 selections were tested for yield in preliminary yield trials in four sets in 1952–53. In 1953–54 this number was reduced to 14, which were found to be promising and also superior in yield to the local bulk. These were tested for yield in the subsequent years in comparative yield trial plots and the number of cultures was further reduced, retaining only the most promising ones.

Ultimately, during 1960–61, three selections—3025, 3062 and 3028 which were consistent in their performance were retained and tested for yield at the Research Station and the former two were sent for "District Trials" in 1961–62 in ryots' holdings.

Selections 3025 and 3062 consistently recorded significant increase in yields over the standard *Mattaikuruvai* for seven years out of eight years' trial at the Agricultural Research Station, Aduthurai, the increase ranging from 10.1 to 12.6%. The performance of these selections during a period of eight years from 1955–56 to 1962–63, recorded in the comparative yield trials at this station is summarised and furnished in table I.

1. Paddy specialist, Coimbatore-3.

2-3. Assistants in paddy, Aduthurai. 4. Paddy Assistant, Coimbatore-3.

* Received on 22-9-1964.

TABLE I

Performance at Aduthurai - acre yield in Kilogram

Year	3025	3062	<i>Mattaikuruvai</i> (standard)	C. D. if significant
1955-56	2527	2506	2382	195
1956-57	1808	1838	1596	129
1957-58	1829	1731	1380	185
1958-59	1660	1654	1561	145
1959-60	1649	1455	1432	228
1960-61	2151	2123	1952	162
1961-62	2156	2192	2044	—
1962-63	1859	1780	1640	216
Average	1955	1912	1737	—
As percentage on standard	112.6	110.1	100.0	—

The two promising selections 3025 and 3062 were also tested in cultivators' fields in the district in 1961-62 and 1962-63 and the results received are presented in table II.

TABLE II

Performance of the cultures 3025 and 3062 in the District trial

1961-62	Acre yield in Kilogram		
	3025	3062	<i>Mattaikuruvai</i> bulk
Centre I	1575	1270	1488
Centre II	1615	1370	1102
Centre III	1796	1279	1642
Average of three centres	1662	1306	1411
As percentage on control	117.7	92.5	100.0
1962-'63	1387	1342	1256
As percentage on control	110.4	106.8	100.0

A perusal of the results obtained from the "District Trials" during 1961-62, and 1962-63, also indicates the superiority of the culture 3025 over ryots' bulk and its suitability for release as an improved strain.

Encouraged by the consistent results, the culture No. 3025 has since been released as strain ADT.26. When this strain gains popularity in the district and replaces the unselected bulk, it is definite that there will be an additional production of about 5,000 tons of paddy, from these 40,000 acres.

A brief summary of the quantitative characters of this strain is furnished below :

Tillers :

Range	—	3 to 15
Mean	—	7.63 ± 0.5198

Height of plant in cms.

Range	—	127 to 169
Mean	—	7.63 ± 1.44

Grain characters :

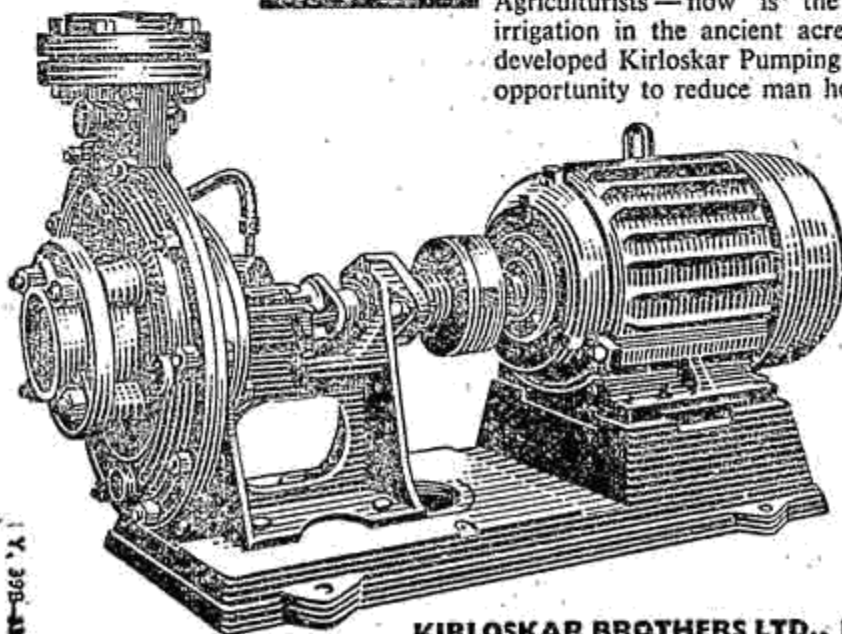
Ripening colour	—	Straw. G. T.
Mean length	—	8.5 mm.
Mean breadth	—	2.9 mm.
Mean thickness	—	2.1 mm.
Rice colour	—	red.

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